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UNITED STATES PATENT APPLICATION

of

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for

ERGONOMIC ROCKER

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BACKGROUND

1. Field of the Invention

This invention relates to chairs, and particularly to ergonomic rocking chairs that maximize circulation and relaxation while minimizing spinal pressure.

2. Background

Conventional rocking chair designs require that a user sit substantially upright, supported by a horizontal seat portion attached to a vertical back rest portion. A user may then actuate the rocking chair by actively opposing the chair's natural upright position, or position of repose. While functionally effective, such conventional rocking chair designs fail to provide ergonomic support for a user, and thus tend to cause and/or aggravate back discomfort, inadequate circulation and other physical stresses over time.

In addition, conventional rocking chairs require strength, coordination and certain physical characteristics to actively effectuate and/or maintain a rocking motion or reclined position. A child, for example, may be too small to actuate a conventional rocking chair while seated. Similarly, an elderly or otherwise incapacitated person may be unable to actively oppose the chair's natural position of repose as needed to cause the chair to rock or recline and/or to maintain the chair in a reclined position.

Conventional rocking chairs typically require numerous parts and fasteners for proper assembly and use. The complexity of the assembly process limits the chair's usefulness as it is both difficult to transport and store the chair in its fully assembled state. Further, typical rocking chair construction limits the chair's inherent functionality. A traditional rocking chair, for example, is ill equipped to support any accessory or food

or drink. In addition, traditional rocking chair construction fails to allow selective stabilization of the chair.

Accordingly, what is needed is an ergonomic rocking chair capable of effectively supporting a user to minimize physical stress over time. Also what is needed is an ergonomic rocking chair capable of use by users having various physical capabilities and characteristics. Further what is needed is an ergonomic rocking chair capable of quick and easy assembly and disassembly. What is also needed is an adaptable ergonomic rocking chair capable of performing various ancillary functions. Finally what is needed is an ergonomic rocking chair capable of selective stabilization.

Such devices are disclosed and claimed herein.

SUMMARY

The present invention is an ergonomic rocking chair that maximizes circulation and relaxation while minimizing spinal pressure. The ergonomic rocking chair of the present invention is further capable of quick and easy assembly and disassembly, and may be selectively stabilized and/or adapted to perform ancillary functions.

In accordance with the invention as embodied and broadly described herein, the present invention features a rocking chair comprising one or more support components, such as a seat, a back support, and arm rests, and further comprises a rocking element configured to urge a user into a substantially horizontal position of repose. The support components and rocking element are removably coupled to one another to facilitate quick and easy assembly and disassembly.

The support components have a length and shape to effectively reduce stress on a user's joints and muscles while increasing circulation and relaxation. The support components may further incorporate a protective covering that may be cushioned or otherwise enhanced to increase a user's comfort and enjoyment. In certain embodiments, the protective covering may further incorporate advertising information for revenue generating purposes.

The rocking element may incorporate a pair of supporting arcs having a contact surface that graduate from a partially inverted configuration to a flat configuration at a point corresponding to and extending beyond the position of repose. In this manner, the supporting arcs facilitate accelerated graduation to the position of repose while preventing unintentional over-rotation. Similarly, the supporting arcs may be situated to extend from the lateral edges of the seat portion inwardly toward the back rest portion.

This configuration provides effective support for a user in a fully reclined position while maintaining proper balance of the chair with respect to the ground.

The chair also incorporates means to support a variety of accessory items and to selectively stabilize the chair.

These and other features and advantages of the present invention will be set forth or will become more fully apparent in the description that follows. The features and advantages may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Furthermore, the features and advantages of the invention may be learned by the practice of the invention or will be obvious from the description, as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

In order that the manner in which the above-recited and other advantages and features of the invention are obtained, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments of the invention and are not therefore to be considered limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 is a side perspective view of a rocking chair in accordance with certain embodiments of the present invention;

Figure 2 is a three-quarters perspective view of the rocking chair of Figure 1;

Figure 3 is a back view of a rocking chair in accordance with certain embodiments of the present invention;

Figure 4 is a bottom view of a rocking chair in accordance with certain embodiments of the present invention;

Figure 5 is a front view of a rocking chair in accordance with certain embodiments of the present invention;

Figure 6 is a front view of a rocking chair that incorporates a protective covering in accordance with certain embodiments of the present invention;

Figure 7 is a front view of the rocking chair of Figure 6 illustrating advertising that may be implemented in connection with a protective covering; and

Figure 8 is a side perspective view of a connecting element implemented between two rocking chairs in accordance with certain embodiments of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.

The presently preferred embodiments of the invention will be best understood by reference to the drawings wherein like parts are designated by like numerals throughout.

As used in this specification, the term "ergonomic" refers to a safe, comfortable and efficient relationship between a person and an object, such as between a user and the rocker of the present invention. The term "position of repose" or "point of repose" refers to a position naturally assumed by an object, such as a rocker, absent any application of force.

Referring now to Figure 1, an ergonomic rocker 2 in accordance with the present invention may comprise a support portion 4 for supporting the weight of a user, and a rocking element 40, wherein the rocker 2 comprises a substantially horizontal position of repose. In this manner, a center of gravity of a user situated in the rocker 2 is shifted rearwardly such that, when the rocker 2 is at equilibrium, the user assumes a reclined position that maximizes circulation and relaxation while minimizing spinal pressure.

The support portion 4 may comprise plastic, wood, composite, metal or any other material known to those in the art having a modulus of elasticity sufficient to support the weight of a user. A proximal end 6 of the support portion 4 may function to support a

user's lower body, while a distal end 8 thereof may support the user's upper body and head. The support portion 4 may further comprise a back surface 10 and a supporting surface 12, wherein the back surface 10 may incorporate structural features to further support and stabilize the support portion 4, and the supporting surface 12 may incorporate contours 14 to support and cradle a user's back and appendages.

The support portion 4 may further comprise a seat portion 20 removably coupled to a backrest portion 30. The seat portion 20 may comprise a length longer than the seat of a traditional rocking chair, preferably between two and three feet. The lower body of a user may thus be fully supported thereby. The backrest portion 30 may comprise a length sufficient to accommodate a user's head and upper body. The backrest portion 30 may be adjustable relative to the seat portion 20 to customize a dimensional as well as angular relationship between the portions 20 and 30, depending on the physical characteristics and individual preferences of the user. Preferably, an angle between the seat portion 20 and the backrest portion 30 comprises between 110 and 150 degrees.

A rocking element 40 in accordance with certain embodiments of the present invention may comprise a receiving portion 46 and at least one supporting arc 42. A receiving portion 46 may be configured to directly receive and engage the support portion 4. In addition, a receiving portion 46 may be configured to substantially mirror the profile of the support portion 4 such that the support portion 4 is effectively supported and cradled thereby.

The length of a supporting arc 42 may substantially correspond to the length of a receiving portion 46, wherein the receiving portion 46 is maintained in an elevated position relative to the supporting arc 42 by at least one buttressing portion 44

substantially vertically imposed between the receiving portion 46 and supporting arc 42. A buttressing element 44 may function to reinforce and stabilize the rocking element 40 relative to the weight of a user.

According to certain embodiments of the present invention, the length of a supporting arc 42 may exceed the length of the receiving portion 46 such that the supporting arc 42 may structurally support the rocker 2 while preventing inadvertent over-rotation thereof.

Referring now to Figure 2, a back surface 10 of a support portion 4 may incorporate engaging means 26 to couple the support portion 4 to the rocking element 40. According to certain embodiments of the present invention, engaging means 26 may extend laterally from a proximal end 6 of the support portion 4 inwardly toward a distal end 8 thereof. Specifically, in certain embodiments, engaging means 26 are incorporated into the sides 24 of the seat portion and graduate inwardly to a back surface 10 of the backrest portion 30. In this manner, the engaging means 26 direct the rocking element 40, and specifically the supporting arcs 40, inwardly toward a point of repose, thus providing concentrated support at a user's center of gravity. Engaging means 26 may comprise a locking recess capable of retaining a complementary member, or any other removable fastener or fastening means known to those in the art.

A back surface 10 of a support portion 4 may further incorporate a handle element 36 integral with or attached to the support portion 4. A handle element 36 comprises dimensions sufficient to accommodate the hand of a user. A handle element 36 may comprise a recess, a finger pull, a cross bar, or any other means known to those in the art by which to facilitate leverage and transport of the rocker 2. A handle element 36 is

preferably located near a distal end 8 of the support portion 4 to facilitate easy access to the handle element 36, as well as to facilitate leverage and transport of the rocker 2. According to certain embodiments of the present invention, a handle element 36 is attached to or integrated with the back surface 10 of a head support element 32.

Referring now to Figures 3 and 4, a rocking element 40 may twist inwardly along at least a portion thereof to facilitate acceleration to a position of repose. Specifically, a contact surface 48 of a supporting arc 42 may comprise a substantially narrow surface area anterior 62 to a point of repose 60, then graduating to a wider surface area, preferably the entire width of the supporting arc 42, at a position corresponding to and posterior to 64 such point of repose 60. The twisted configuration of the rocking element 40 thus urges the rocker 2 to a position of repose quickly and effectively while causing the rocker 2 to immediately slow once the position of repose is reached. In this manner, the rocking element 40 inhibits a tendency of the rocker to over-rotate, without comprising its accelerated graduation to a position of repose.

A supporting arc 42 may further comprise a traction element 50 interiorly laterally disposed along the anterior portion 62 of the supporting arc 42 to effectively grip an unstable surface, such as sand or gravel, on which the rocker 2 is placed. The traction element 50 may be disposed along the supporting arc 42 such that the traction element 50 does not interfere with the contact surface 48, and associated acceleration to a position of repose, under normal stable circumstances.

Referring now to Figure 5, a supporting surface 12 of a support portion 4 may comprise contours 14 substantially corresponding to a user's body to promote circulation and relaxation. Specifically, a supporting surface 12 may incorporate a head support

element 32 at a distal end 8 thereof and at least one flared side element 34 to support a user's upper body and shoulders. Contours 14 may also be incorporated into a proximal end 6 of the support portion 4 to promote circulation and relaxation in a user's lower limbs.

A seat portion 20 may be removably connected to a backrest portion 30 to facilitate assembly and disassembly of the rocker 2. For example, a distal end of the seat portion 20 may include at least one fastening element 38 to releasably engage the backrest portion 30. A fastening element 38 may comprise a screw, a pin, a tongue and groove, or any other means known to those in the art by which to releasably secure a seat portion 20 to a backrest portion 30. Alternatively, a distal end of the seat portion 20 may be configured to complement a proximal end of the backrest portion 30 without actually engaging such backrest portion 30. According to this embodiment, each of the seat portion 20 and the backrest portion 30 may include at least one fastening element 38 on a side portion 24 thereof, such that each portion 20 may be directly connected to the rocking element 40. When each of the seat and backrest portions 20 and 30 are thus engaged with the rocking element 40, no gap remains between the portions 20 and 30. Alternatively, certain embodiments of the present invention provide an aperture 18 between the seat and backrest portions 20 and 30 to facilitate ventilation and drainage, as may be required by a user from time to time.

Additionally, as mentioned above with reference to Figure 1, an adjusting element 28 may be implemented between the seat portion 20 and the backrest portion 30 to enable customization of a dimensional and/or angular relationship therebetween. Preferably, an

angle between such seat portion 20 and backrest portion 30 ranges between about 110 and 150 degrees.

Further, a support portion 4 may incorporate at least one opening 16 to facilitate implementation of a protective covering 70, as discussed below with reference to Figures 6 and 7.

Referring now to Figures 6 and 7, a support portion 4 in accordance with the present invention may incorporate a protective covering 70 removably attached thereto. A protective covering 70 may comprise any organic, inorganic or composite material known to those in the art by which to protect a chair in accordance with the present invention. According to certain embodiments of the present invention, a protective covering 70 may incorporate an aperture substantially corresponding to an aperture 18 between a seat portion 20 and backrest portion 30 to maximize ventilation and comfort of a user. In addition, a protective covering 70 may be cushioned or otherwise enhanced to increase a user's comfort and enjoyment.

A protective covering 70 may further comprise attachment means 72 capable of releasably securing the protective covering 70 to a support portion 4. Specifically, a protective covering 70 may incorporate at least one pocket substantially corresponding to and capable of attaching to a specific chair 2 component, such as, for example, a head support element 32, a flared side element 34, and a side 24 of the seat portion 20. In addition, a protective covering 70 may incorporate at least one strap or other attachment means 72 capable of being threaded through an opening 16 in the support portion 4 to enable and effectively conceal attachment on a back surface thereof. Attachment means 72 may comprise a clasp, clip, buckle, snap, hook and loop material, or any other means

of attachment known to those in the art capable of releasably securing a protective covering 70 to a support portion 4.

According to certain embodiments of the present invention, a protective covering 70 may comprise advertising means 74 integral therewith or attached thereto. Specifically, advertising means 74 may comprise a logo, trademark, or any other means known to those in the art capable of conveying identifying information to a user. Alternatively, an audio or video recording or other electronic advertising means may be incorporated into a portion of the support portion 4 or rocking element 40 to selectively or automatically convey advertising information to a user upon use.

Referring now to Figure 8, a chair 2 in accordance with the present invention may provide a coupling element 80 to releasably couple the chair 2 to a second chair 82 or stationary object. In this manner, the chair 2 may operate in unison with a second chair 82, or may be stabilized relative to a stationary object. A coupling element 88 may permit a distance between the chair 2 and the chair or object to which it is coupled, or may couple the chair 2 and the item directly such that any space between the two is minimized. Preferably, a coupling element 80 comprises a platform, bar or other element capable of providing a surface capable of supporting an accessory item 86. An accessory item 86 may comprise, for example, a baby seat, a cooler, a stereo, or any other accessory item known to those in the art.

Additionally, a chair 2 in accordance with the present invention may incorporate an independent supporting element 90 capable of supporting an accessory item 86 independent of a second chair 82 or stationary object. An independent supporting

element 90 may comprise, for example, a cup holder, a tray, a desktop, or any other means capable of supporting an accessory item 86 known to those in the art.

A coupling element 80 may be attached to a chair 2, or between more than one chair 2, by way of securing means 88. Similarly, an independent supporting element 90 may also be attached to a chair by securing means 88. Securing means 88 may comprise a recess, a screw, a pin, or any other means known to those in the art capable of securing and supporting a coupling element 80 or independent supporting element 90 with respect to a chair 2 as described herein.

What is claimed and desired to be secured by Letters Patent is: